BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Applied Science Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Applied Science
Unit number and title	**Unit 18: Astronomy and Space Science**
Learning aim	**A**: Understand the fundamental aspects of the Solar System
Assignment title	**The Sun and its family**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	Your school/college is one of a number of centres which has been asked to demonstrate a range of students' work about the Solar System for 'Space Week', which has been coordinated by the UK Space Agency. You must produce a clear report which will be made available to all visitors having an interest in Astronomy and Space Science. The presentations will be judged by a prominent British astronomer.

Task	Produce a report containing three sections to demonstrate your understanding of the Solar System. <u>Section 1 - Components of the Inner and Outer Solar System</u> **Describe** the main features of the Solar System using diagrams, pictures and charts. This should include: • known planets and their composition (rocky, gaseous and dwarf planets) • prominent moons • asteroids • comets (short and long period) • meteorites – composition, origins and shower characteristics • Kuiper belt and Oort cloud • ring systems of the four largest planets • Van Allen radiation belts. Produce **descriptions** of the forces involved (Kepler's laws), orbital characteristics, rotation (including planetary axes), atmospheric conditions and physical data (e.g. surface features, diameter and mass), composition and surface features on three chosen planets and the moon. <u>Section 2 – The Special Relationship</u>

	Describe the interaction between the Sun, Moon, Earth and other bodies in the Solar System. **Explain** through diagrams and supportive annotations, how the interaction between the Sun, the Moon and the Earth gives rise to day and night, the phases of the Moon, lunar and solar eclipses and tidal effects on Earth. Give a detailed **description** of the internal structure of the Earth and its atmosphere and include surface and composition details of the Moon. Section 3 – Here comes the Sun **Explain** the composition of the Sun using a clear diagram which illustrates the layered structure and gases. **Explain** the process of nuclear fusion and the surface features produced as a result of magnetic forces. **Analyse** how the sun remains in equilibrium and subsequent effects on the Sun and the Solar System when these forces change.
Checklist of evidence required	• A report on the components of the Solar System with supporting data, compositions, **descriptions** and forces involved. • A report which **describes** the Earth-Moon system and interaction with the Sun and other Solar System objects • A report **explaining** the main features of the Sun and the important processes which take place within its structure. This will also include an **analysis** of the impact of the Sun on the Solar System.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria, you must show that you are able to:
A.D1	Analyse the importance of the Sun in its solar system
A.M1	Explain the effects of interaction between the Sun, Earth and Moon and other solar system objects
A.P1	Describe the main features of the solar system and the Sun's influence

Sources of information to support you with this Assignment	https://www.e-education.psu.edu/astro801/content/l9_p8.html (lessons 1, 11 and 12) https://store.bbc.com/wonders-with-brian-cox/bundles/the-wonders-collection The Solar System by Kenneth R Lang ISBN 0521198577 The Life and Death of Stars by Kenneth R Lang ISBN 110701638X